

WARNING: DEVIATION FROM THESE INSTALLATION INSTRUCTIONS MAY LEAD TO IMPROPER ENGINE OPERATION WHICH COULD CAUSE PERSONAL INJURY TO OPERATORS OR OTHER NEARBY PERSONNEL.

1.0 DESCRIPTION

- 1.1 The Altronic 24VDC alternator/regulator packages provide a reliable, engine-mounted source of DC power for Altronic DC-powered digital ignition systems, other Altronic engine accessories and Altronic Controls panels. There are two versions available.
- VERSION I** - The 590110 series (coupling driven) or 590116 series (belt driven) provide up to 70 watts (3 amps) output at 1,800 RPM.
- VERSION II** - The 590111 series (coupling driven) or 590117 series (belt driven) provide direct power for the Altronic CD1, CPU-90 and DISN ignition system thus constituting a self-powered, digital ignition system.
- 1.2 The following components are required:
1. Alternator Unit
 2. Regulator (581501 or 581502)
 3. Cable Assembly
 4. Battery Pack (591100) - used only with Version I series alternators

2.0 ALTERNATOR UNIT

- 2.1 **COUPLING DRIVEN UNIT:** The alternator is available with several flange assemblies to facilitate mounting to most engines having a flange magneto drive. The alternator should be secured to the mounting using 3/8"-16 screws; tighten the screws securely.
- 2.2 **BELT DRIVEN UNIT:** The alternator must be driven with a pulley having an adjustable 5/8" I.D. hub. Use a pulley diameter to achieve a speed necessary to satisfy the output requirements of the application - refer to the chart on drawing 509 059A (Version I) or 509 060A (Version II). The alternator should be secured to a mounting bracket using two 3/8"-16 screws; tighten the screws securely.
- 2.3 The maximum recommended continuous operating RPM for the alternator drive shaft is 2,000 RPM.

3.0 REGULATOR

- 3.1 Be sure the regulator is the correct model for the alternator being used; the regulator part no. must match that printed on the alternator label.
- 3.2 Locate a suitable mounting position for the regulator unit within reach of the cable assembly and where the ambient temperature does not exceed 150° F. (65° C.).
- 3.3 Secure the regulator with four 1/4" screws.

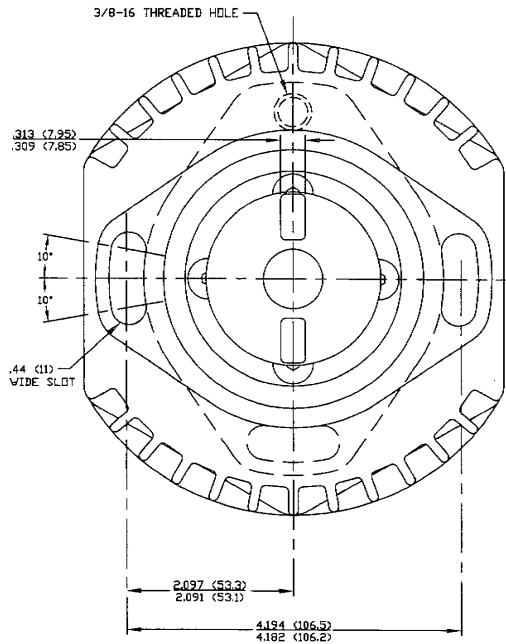
4.0 BATTERY PACK (used only with Version I series alternator and 581501 regulator)

- 4.1 Locate a suitable mounting position for the battery pack unit within reach of the cable assembly and where the ambient temperature does not exceed 122° F. (50° C.).
- 4.2 The battery pack is furnished with shock mounts and 1/4" mounting hardware. Tighten all four nuts securely.

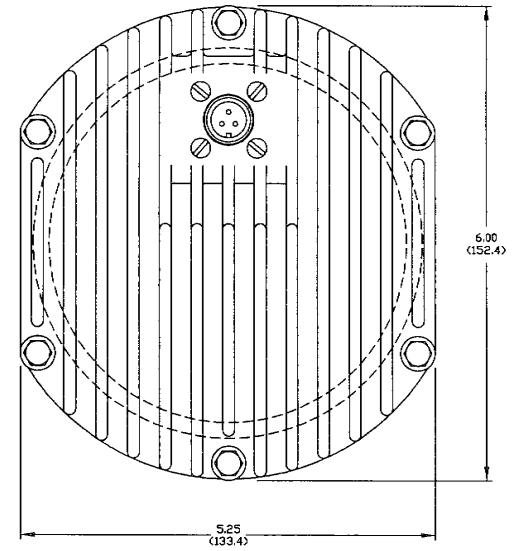
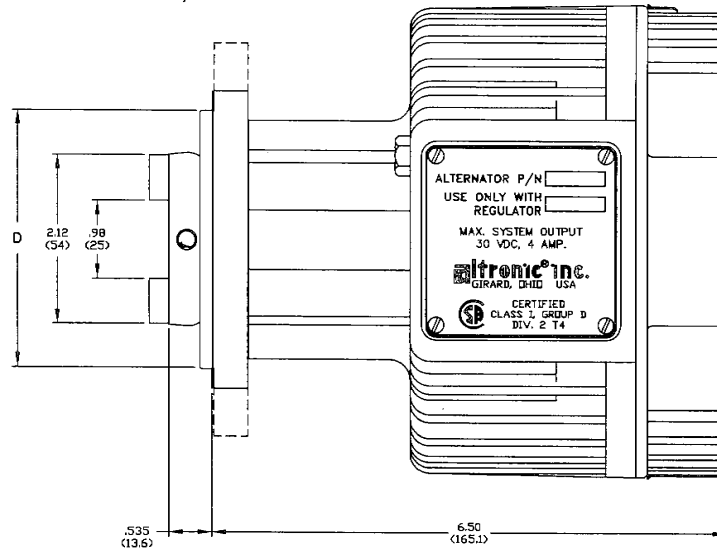
5.0 WIRING HOOK-UP

- 5.1 Refer to the drawings for mounting dimensions for the various system components:
- For alternator dimensions, see drawing 509 056A.
 - For regulator dimensions, see drawing 509 057A.
 - For battery pack dimensions, see drawing 509 058.
- 5.2 Refer to the diagrams for the proper wiring hook-up for the particular alternator/regulator version being used:
- For the Version I system, see drawing 509 059A or 509 063A (shielded system).
 - For the Version II system, see drawing 509 060A or 509 064A (shielded system).

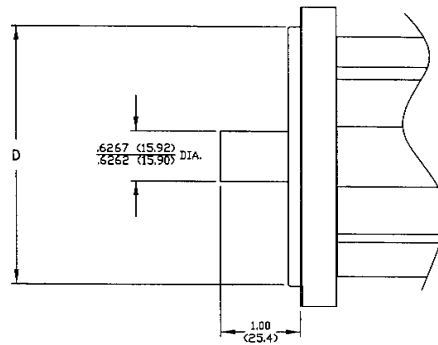
VERSION I MODEL	VERSION II MODEL	PILOT DIAMETER "D"	FLANGE ORIENTATION	NO. OF .44 SLOTS
590110-A	590111-A	3.250/3.248 (82.55/82.50)	VERTICAL	1
590110-D	590111-D	3.000/2.998 (76.20/76.15)	HORIZONTAL	2
590110-G	590111-G	3.250/3.248 (82.55/82.50)	HORIZONTAL	2
590110-GV	590111-GV	3.250/3.248 (82.55/82.50)	VERTICAL	2
590116-G	590117-G	3.250/3.248 (82.55/82.50)	HORIZONTAL	2



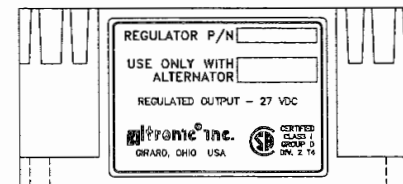
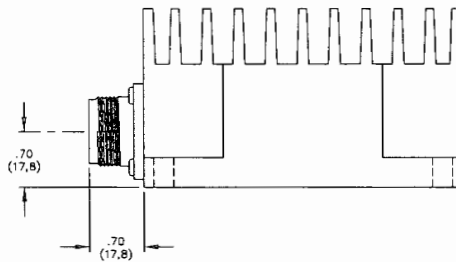
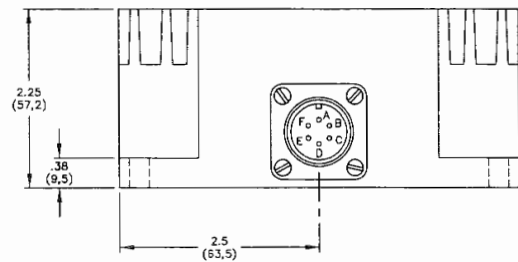
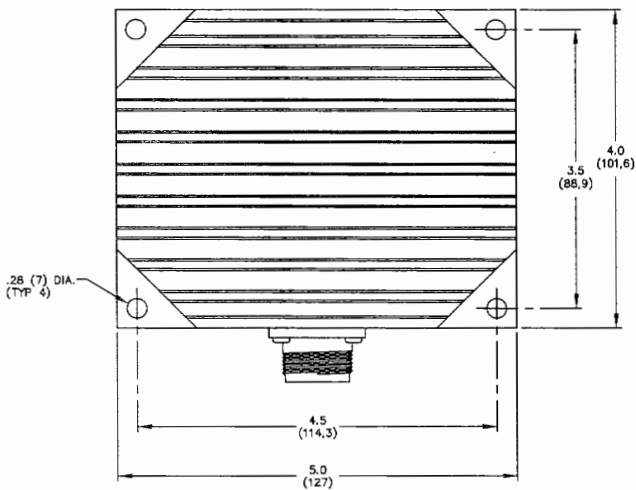
590110/590111 SERIES



590116/590117 SERIES



REVISIONS				TOLERANCES EXCEPT AS NOTED	ALTRONIC INC.		
NO.	DATE	BY	DESCRIPTION	DECIMAL XX - .005 XX - .010	TITLE		DRAWING NUMBER
1				FRACTIONAL	24 VDC ALTERNATOR		
2				MATERIAL	INSTALLATION DRAWING		
3					DRAWN BY	SCALE	2-1-01
4					CHECKED BY	DATE	
5					APPROVED BY		



REGULATOR PART NO.	ALTERNATOR PART NO.	BATTERY PACK	REGULATED VOLTAGE	APPLICATION
581501	590110-x	591100	27 ±10%	BATTERY CHARGING - SEE NOTE 1
	590116-x			
581502	590111-x	NOT USED	27 ±10%	IGNITION POWER - SEE NOTE 2
	590117-x			

NOTE:

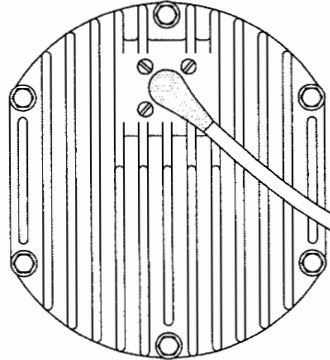
- MUST BE USED WITH A BATTERY BACK-UP:
 - ALTRONIC BATTERY PACK 591100; OR
 - TWO BATTERIES POWER SONIC MODEL PS-1242 OR EQUIVALENT 12V, 4.0 AMP-HR., WIRED IN SERIES
- POWER FOR ALTRONIC CD1, CPU-90, DISN SYSTEMS ONLY.

NOTE: REGULATOR SHOULD BE MOUNTED IN A LOCATION WHERE MAXIMUM AMBIENT TEMPERATURE DOES NOT EXCEED 150°F.

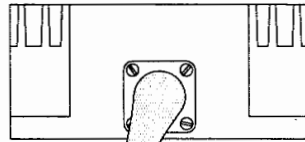
DIMENSIONS IN INCHES AND (MM).

REVISIONS				TOLERANCES (EXCEPT AS LISTED)		ALTRONIC INC.	
NO.	DATE	BY	DESCRIPTION	DECIMAL	FRACTIONAL	TITLE	DRAWING NUMBER
1				.0005		VOLTAGE REGULATOR INSTALLATION DRAWING	509 057A
2				.001			
3						SCALE FULL	DRAWING NUMBER
4						CHECKED BY WTP DATE 2-1-01	
5						APPROVED BY	

590110-x
590116-x
ALTERNATOR



581501
VOLTAGE REGULATOR



593060-x
CABLE

6-PIN CONNECTOR

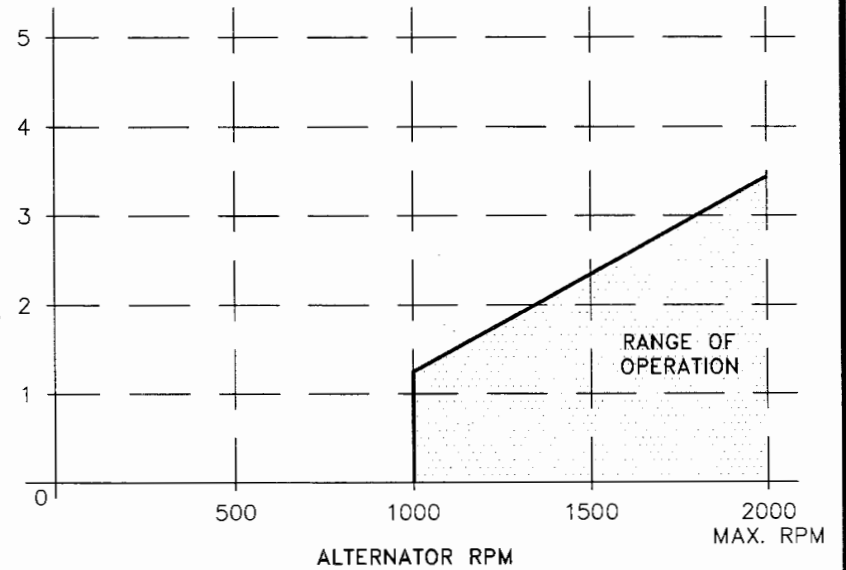
- A - +24 VOLT OUTPUT
- B - GROUND
- C - + BATTERY
- D - NOT USED
- E - ALT. INPUT
- F - ALT. INPUT

AMPS
⊙ 24VDC

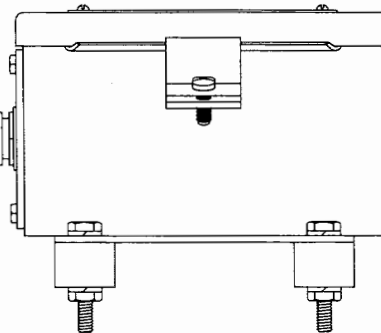
3-PIN CONNECTOR

- A - ALT. OUT
- B - ALT. OUT
- C - NOT USED

VERSION I



591100
BATTERY PACK



FUSE (2) RATING:
10 AMPS

BATTERY +
BATTERY -

GROUND

24 VDC POWER
TO ALTRONIC IGNITION
AND CONTROLS

TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.		
DECIMAL .XXX - ±.005 .XX - ±.010		TITLE 24 VDC SYSTEM - VERSION I INSTALLATION DRAWING		
FRACTIONAL		DRAWN BY	WTP	SCALE NONE
MATERIAL		CHECKED BY	DATE	2-1-01
		APPROVED BY		DRAWING NUMBER 509 059A

REVISIONS				
NO.	DATE	BY	DESCRIPTION	
1				

590111-x
590117-x
ALTERNATOR

581502
VOLTAGE REGULATOR

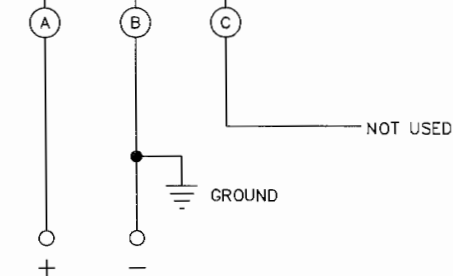
593060-x
CABLE

6-PIN CONNECTOR

A - +24 VOLT OUTPUT
B - GROUND
C - NOT USED
D - NOT USED
E - ALT. INPUT
F - ALT. INPUT

3-PIN CONNECTOR

A - ALT. OUT
B - ALT. OUT
C - NOT USED



24 VDC POWER TO
ALTRONIC CPU-90,
DISN IGNITION

VERSION II

APPLICATION: CD1, CPU-90, DISN

NO. CYLINDERS	CYCLE	MIN. ALTERNATOR DRIVE RATIO *	ENGINE RPM	
			MIN.	MAX.
4 OR LESS	2	1:1	60	1,800
8 OR LESS	2	2:1	30	900
10 OR LESS	2	2.5:1	25	750
16 OR LESS	2	3:1	25	600
8 OR LESS	4	1:1	60	1,800
10 OR LESS	4	1.25:1	50	1,500
16 OR LESS	4	1.5:1	50	1,200

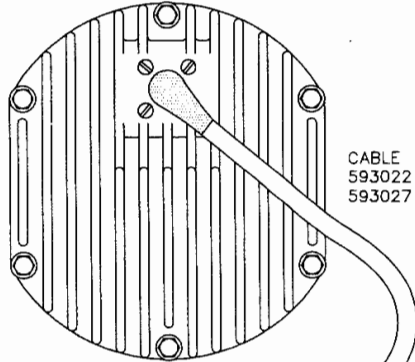
* ALTERNATOR RPM : ENGINE RPM. RATIO LISTED IS MINIMUM TO ACHIEVE PROPER OPERATION OF CD1, DISN AND CPU-90 MODEL -100; CONTACT FACTORY FOR CPU-90 MODELS -150 AND -200.

TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.			
DECIMAL .XXX - ±.005 .XX - ±.010		TITLE 24 VDC SYSTEM - VERSION II INSTALLATION DRAWING			
FRACTIONAL		DRAWN BY	WTP	SCALE	NONE
MATERIAL		CHECKED BY	DATE	2-13-01	DRAWING NUMBER
		APPROVED BY			509 060A

REVISIONS

NO.	DATE	BY	DESCRIPTION
1			
2			

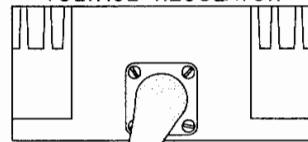
590110-x
590116-x
ALTERNATOR



3-PIN CONNECTOR

- A - ALT. OUT
- B - ALT. OUT
- C - NOT USED

581501
VOLTAGE REGULATOR



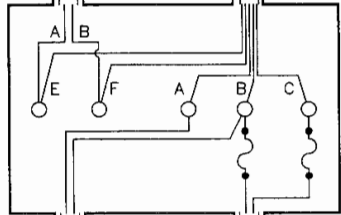
CABLE
593058

6-PIN CONNECTOR

- A - +24 VOLT OUTPUT
- B - GROUND
- C - + BATTERY
- D - NOT USED
- E - ALT. INPUT
- F - ALT. INPUT

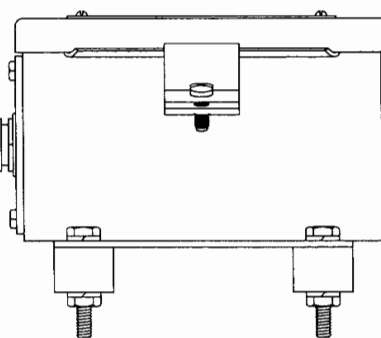
AMPS
⊙ 24VDC

CSA CERTIFIED
JUNCTION BOX



FUSE (2) RATING:
10 AMPS

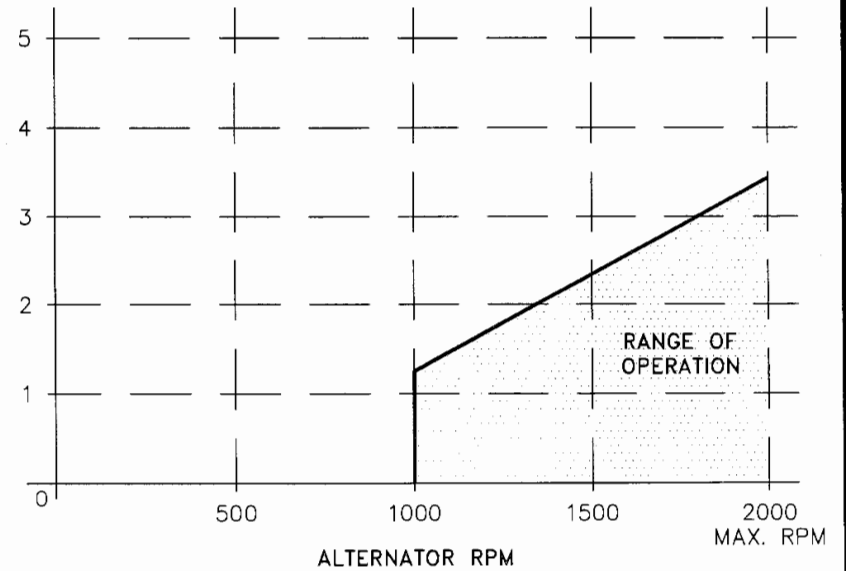
591100
BATTERY PACK



CSA CERTIFIED
CONDUIT

TO IGNITION CONTROLS
30 VDC MAX.
4 AMPS MAX.

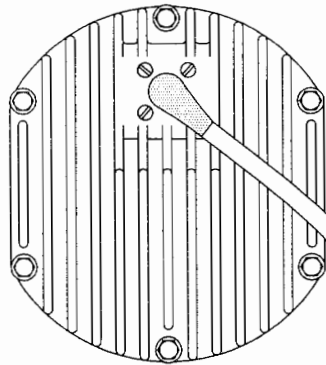
VERSION I



TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.		
DECIMAL .XXX - ±.005 .XX - ±.010		TITLE 24 VDC SHIELDED SYSTEM - VERSION I INSTALLATION DRAWING		
FRACTIONAL	DRAWN BY WTP	SCALE NONE	DRAWING NUMBER	
MATERIAL	CHECKED BY	DATE 2-1-01	509 063A	
		APPROVED BY		

REVISIONS			
NO.	DATE	BY	DESCRIPTION
1			

590111-x
590117-x
ALTERNATOR

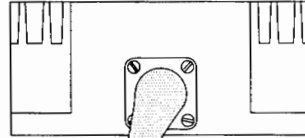


3-PIN CONNECTOR

A - ALT. OUT
B - ALT. OUT
C - NOT USED

CABLE
593022
593027

581502
VOLTAGE REGULATOR

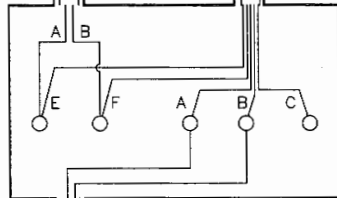


CABLE
593058

6-PIN CONNECTOR

A - +24 VOLT OUTPUT
B - GROUND
C - NOT USED
D - NOT USED
E - ALT. INPUT
F - ALT. INPUT

CSA CERTIFIED
JUNCTION BOX



CSA CERTIFIED
CONDUIT

TO IGNITION CONTROLS
30 VDC MAX.
4 AMPS MAX.

VERSION II

APPLICATION: CD1, CPU-90, DISN

NO. CYLINDERS	CYCLE	MIN. ALTERNATOR DRIVE RATIO *	ENGINE RPM	
			MIN.	MAX.
4 OR LESS	2	1:1	60	1,800
8 OR LESS	2	2:1	30	900
10 OR LESS	2	2.5:1	25	750
16 OR LESS	2	3:1	25	600
8 OR LESS	4	1:1	60	1,800
10 OR LESS	4	1.25:1	50	1,500
16 OR LESS	4	1.5:1	50	1,200

* ALTERNATOR RPM : ENGINE RPM. RATIO LISTED IS MINIMUM TO ACHIEVE PROPER OPERATION OF CD1, DISN AND CPU-90 MODEL -100; CONTACT FACTORY FOR CPU-90 MODELS -150 AND -200.

TOLERANCES (EXCEPT AS NOTED)		ALTRONIC INC.			
DECIMAL .XXX - ±.005 .XX - ±.010	FRACTIONAL	TITLE 24 VDC SHIELDED SYSTEM - VERSION II INSTALLATION DRAWING			
MATERIAL	DRAWN BY WTP	SCALE NONE	DRAWING NUMBER		
	CHECKED BY	DATE 2-13-01	509 064A		
	APPROVED BY				

REVISIONS				
NO.	DATE	BY	DESCRIPTION	
1				
2				